

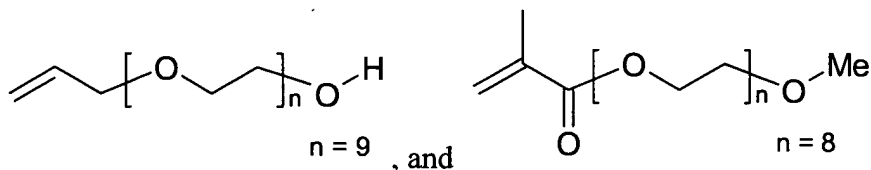
WHAT IS CLAIMED IS:

1. A method of making a composition comprising reacting, in a reactor,
  - a. a non-halogenated acetoacetate group containing monomer,
  - b. at least one additional monomer, and
  - c. a base,wherein at least a portion of the base is fed to the reactor during reaction.
2. The method of claim 1, wherein one of:
  - a. none of the base is present in the reactor at the start of the reacting step and the base is mixed with the monomers and is added during the reacting step,
  - b. none of the base is present in the reactor at the start of the reacting step and the base is fed into the reactor separately from the monomers during the reacting step,
  - c. none of the base is present in the reactor at the start of the reacting step and the base is fed into the reactor mixed with the monomers and separately from the monomers during the reacting step,
  - d. less than 50% of the base is present in the reactor at the start of the reacting step and the remainder of the base is mixed with the monomers and is added during the reacting step,
  - e. less than 50% of the base is present in the reactor at the start of the reacting step and the remainder of the base is fed into the reactor separately from the monomers during the reacting step
  - f. less than 50% of the base is present in the reactor at the start of the reacting step and the remainder of the base is fed into the reactor mixed with the monomers and separately from the monomers during the reacting step.
3. The method of claim 1, wherein the base is at least one of an alkali metal hydroxide, an alkaline earth metal hydroxide, lithium hydroxide, sodium hydroxide, potassium hydroxide, calcium hydroxide, magnesium hydroxide, barium hydroxide, ammonia, ammonium hydroxide, an amine, methylamine, ethylamine, propylamine, dimethylamine,

diethylamine, trimethylamine, triethylamine, 2-amino-2-methyl-1-propanol, and triethanolamine.

4. The method of claim 1, wherein the base is at least one of a compound with buffering capability, an alkali metal carbonate, an alkali metal bicarbonate, ammonium carbonate, ammonium bicarbonate, a monobasic phosphate of an alkali metal, a dibasic phosphate of an alkali metal, an ammonium monobasic phosphate, an ammonium dibasic phosphate, a tetroxalate of an alkali metal, a tartrate of an alkali metal, ammonium tetroxalate, ammonium tartrate, a phthalates of an alkali metal, ammonium phthalate.
5. The method of claim 1, wherein the base is added during the reacting step in an amount to provide a pH that is at least 0.2 units higher than would be obtained if the base were not present.
6. The method of claim 1, wherein the base is added during the reacting step in an amount such that the pH is not higher than 7.
7. The method of claim 1, wherein the base is added during the reacting step in an amount to provide a pH that is at least 0.2 units higher than would be obtained if the base were not present, and the base is added during the reacting step in an amount such that the pH is not higher than 7.
8. The method of claim 1, wherein the base is used in an amount of from about 0.01 to about 2 weight % based on a total weight of the polymer.
9. The method of claim 1 further comprising reacting a functional monomer with the other monomers to form the polymer, wherein the at least one additional monomer is not a functional monomer, and wherein the functional monomer is a monomer that has at least one of a functional group in addition to a carbon-carbon double bond or has at least two sites of ethylenic unsaturation.
10. The method of claim 9, wherein the functional monomer is present in an amount from about 0.05 to about 5 weight % based on a total weight of the polymer.

11. The method of claim 9, wherein the functional monomer is at least one of a mono-ethylenically unsaturated acid, a mono-ethylenically unsaturated diacid, (meth)acrylic acid, itaconic acid, maleic acid, a nitrogen-containing monomer, (meth)acrylamide, ureido (meth)acrylate, ureido (meth)acrylamide, acrylamidemethypropylsulfonic acid, a salt of acrylamidemethypropylsulfonic acid, a silane monomer, methacryloxypropyl trimethoxysilane, methacryloxypropyl triethoxysilane, methacryloxypropyl tripropoxysilane, methacryloxypropyl triisopropoxysilane, vinyltrimethoxysilane, vinyltriethoxysilane, a monomer with at least two sites of ethylenic unsaturation, ethylene glycol dimethacrylate, diethylene glycol dimethacrylate, trimethylolpropane trimethacrylate, 1,3-buteneglycol dimethacrylate, 1,4-buteneglycol dimethacrylate, an ethoxylated vinyl monomer, an ethoxylated (meth)acrylic monomers,



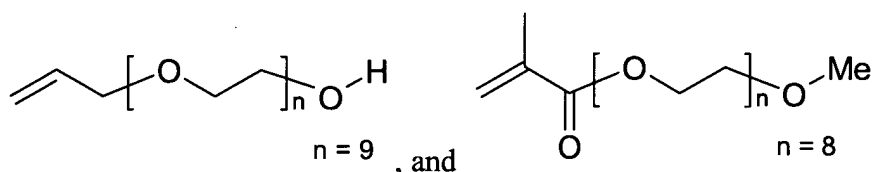
12. The method of claim 1, wherein the non-halogenated acetoacetate moiety containing monomer is present in an amount from about 0.1 to about 25 weight % based on a total weight of the polymer.
13. The method of claim 1, wherein the non-halogenated acetoacetate moiety containing monomer is at least one of 2-acetoacetoxyethyl (meth)acrylate, 2-cyanoacetoxyethyl (meth)acrylate, N-(2-acetoacetoxyethyl) (meth)acrylamide, 3-acetoacetoxypropyl (meth)acrylate, 4-acetoacetoxybutyl (meth)acrylate, 3-cyanoacetoxypropyl (meth)acrylate, 4-cyanoacetoxybutyl (meth)acrylate, allyl acetoacetate, 2,3-di(acetoacetoxy)propyl (meth)acrylate, and vinyl acetoacetate.
14. The method of claim 1, wherein the at least one additional monomer is present in an amount from about 70 to about 99.9 weight % based on a total weight of the polymer.
15. A composition comprising an aqueous polymer dispersion that is a product of a method comprising reacting
- a. a non-halogenated acetoacetate moiety containing monomer,

- b. at least one additional monomer, and
- c. a base,

wherein the base is fed to the reaction during reaction, wherein the composition has a lower viscosity than a second composition, wherein the second composition is prepared from the same materials as the composition, and the second composition is made by a method wherein the base is added to the second composition after a reaction to form the second composition, and wherein the at least one additional monomer is not butadiene.

- 16. The composition of claim 1, wherein the base is at least one of an alkali metal hydroxide, an alkaline earth metal hydroxide, lithium hydroxide, sodium hydroxide, potassium hydroxide, calcium hydroxide, magnesium hydroxide, barium hydroxide, ammonia, ammonium hydroxide, an amine, methylamine, ethylamine, propylamine, dimethylamine, diethylamine, trimethylamine, triethylamine, 2-amino-2-methyl-1-propanol, and triethanolamine.
- 17. The composition of claim 1, wherein the base is at least one of a compound with buffering capability, an alkali metal carbonate, an alkali metal bicarbonate, ammonium carbonate, ammonium bicarbonate, a monobasic phosphate of an alkali metal, a dibasic phosphate of an alkali metal, ammonium monobasic phosphate, ammonium dibasic phosphate, a tetroxalate of an alkali metal, a tartrate of an alkali metal, ammonium tetroxalate, ammonium tartrate, a phthalates of an alkali metal, ammonium phthalate.
- 18. The composition of claim 1, wherein the base is added during the reacting step in an amount to provide a pH that is at least 0.2 units higher than would be obtained if the base were not present.
- 19. The composition of claim 1, wherein the base is added during the reacting step in an amount such that the pH is not higher than 7.
- 20. The composition of claim 1, wherein the base is added during the reacting step in an amount to provide a pH that is at least 0.2 units higher than would be obtained if the base were not present, and the base is added during the reacting step in an amount such that the pH is not higher than 7.

21. The composition of claim 1, wherein the base is used in an amount of from about 0.01 to about 2 weight % based on a total weight of the polymer.
22. The composition of claim 1 further comprising reacting a functional monomer with the other monomers to form the polymer, wherein the at least one additional monomer is not a functional monomer, and wherein the functional monomer is a monomer that has at least one of a functional group in addition to a carbon-carbon double bond or has at least two sites of ethylenic unsaturation.
23. The composition of claim 22, wherein the functional monomer is present in an amount from about 0.05 to about 5 weight % based on a total weight of the polymer.
24. The composition of claim 22, wherein the functional monomer is at least one of a mono-ethylenically unsaturated acid, a mono-ethylenically unsaturated diacid, (meth)acrylic acid, itaconic acid, maleic acid, a nitrogen-containing monomer, (meth)acrylamide, ureido (meth)acrylate, ureido (meth)acrylamide, acrylamidemethypropylsulfonic acid, a salt of acrylamidemethypropylsulfonic acid, a silane monomer, methacryloxypropyl trimethoxysilane, methacryloxypropyl triethoxysilane, methacryloxypropyl tripropoxysilane, methacryloxypropyl triisopropoxysilane, vinyltrimethoxysilane, vinyltriethoxysilane, a monomer with at least two sites of ethylenic unsaturation, ethylene glycol dimethacrylate, diethylene glycol dimethacrylate, trimethylolpropane trimethacrylate, 1,3-butyleneglycol dimethacrylate, 1,4-butyleneglycol dimethacrylate, an ethoxylated vinyl monomer, an ethoxylated (meth)acrylic monomers,



25. The composition of claim 1, wherein the non-halogenated acetoacetate moiety containing monomer is present in an amount from about 0.1 to about 25 weight % based on a total weight of the polymer.

26. The composition of claim 1, wherein the non-halogenated acetoacetate moiety containing monomer is at least one of 2-acetoacetoxyethyl (meth)acrylate, 2-cyanoacetoxyethyl (meth)acrylate, N-(2-acetoacetoxyethyl) (meth)acrylamide, 3-acetoacetoxypropyl (meth)acrylate, 4-acetoacetoxybutyl (meth)acrylate, 3-cyanoacetoxypropyl (meth)acrylate, 4-cyanoacetoxybutyl (meth)acrylate, allyl acetoacetate, 2,3-di(acetoacetoxy)propyl (meth)acrylate, and vinyl acetoacetate.
27. The composition of claim 1, wherein the at least one additional monomer is present in an amount from about 70 to about 99.9 weight % based on a total weight of the polymer.
28. The composition of claim 1, wherein the composition has a higher scrub resistance according to ASTM D-2486 than the second composition.